

CHAPTER 9

ORGAN PROCUREMENT

Data sourced from the ANZOD Registry

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ORGAN DONORS IN AUSTRALIA AND NEW ZEALAND

(Summarised from the Australia and New Zealand Organ Donation Registry Report 2011)
For more detail please refer to Website: www.anzdata.org.au/anzod/anzodwelcome.htm.

Figure 9.1

Number of Donors** by Retrieval State ^(x) 2006 - 2010
() Donors Per Million

	2006	2007	2008	2009	2010
Queensland	36 (9)	39 (9)	48 (11)	47 (11)	49 (11)
New South Wales + *	49 (7+) (7*)	53 (8+) (8*)	57 (8+) (8*)	68 (10+) (10*)	87 (12+) (12*)
ACT + *	4 (7+) (12*)	1 (2+) (3*)	5 (9+) (14.5*)	8 (14+) (23*)	10 (17+) (28*)
Victoria	46 ^(x) (9)	55 (11)	67 (13)	65 ^(x) (12)	98 ^(x) (18)
Tasmania	8 (16)	1 (2)	8 (16)	5 (10)	10 (20)
South Australia	36 (23)	27 (17)	43 (27)	33 (20)	31 (19)
Northern Territory	2 (10)	3 (14)	3 (14)	2 (9)	2 (9)
Western Australia	21 (10)	19 (9)	28 (13)	19 (8.5)	22 (10)
Australia	202 (9.8)	198 (9.4)	259 (12.1)	247 (11.3)	309 (13.8)
New Zealand	25 (6.0)	38 (9.0)	31 (7.3)	43 (10.0)	41 (9.4)

^(x) Refers to donors retrieved by retrieval State (ie Albury-NSW donors retrieved by Victoria)
+ NSW population excludes residents of the NSW Southern Area Health Service (included in ACT population)
* NSW population includes residents of the NSW Southern Area Health Service (excluded from ACT population)
Medical services from the ACT service the NSW Southern Area Health Region. Population data—June 2008 ABS 3101.0

** This figure relates to the number of donors for whom the retrieval operation commenced for the purpose of transplantation. It includes donors who may have been deemed medically unsuitable at the time of surgery or after removal of organs.

Donor figures for Australia for 2010 include six donors who went to the operating theatre but organs or tissues were not retrieved. A further donor had corneas only retrieved, but were not suitable for transplantation.

Three donors had malignancies, two had disease of organs, one was medically unsuitable and one had extended ischaemic time. Two were DCD donors.

Donor (dpmp) figures in Australia rose to 13.8 (dpmp) in 2010 from 11.3 (dpmp) in 2009 and 12.1 (dpmp) in 2008.

New Zealand had one donor whose organs or tissues were not retrieved due to disease. A further two donors donated corneas only.

In 2010 there was a range between the States of nine donors per million population (dpmp) in the Northern Territory to 20 (dpmp) in Tasmania. The ACT had 28 dpmp when the NSW Southern Area Health Service population was excluded.

Figure 9.2

Donors per Million Population and Donors per Thousand Deaths ()
Australian States - Australia and New Zealand 2004 - 2009

Year	QLD	NSW *	ACT *	VIC	TAS	SA	NT	WA	AUST	NZ
2004	10 (1.6)	9 (1.4)	19 (4.2)	9 (1.4)	4 (0.5)	25 (3.4)	5 (1.1)	12 (2.1)	11 (1.6)	10 (1.4)
2005	9 (1.5)	8 (1.2)	28 (6.0)	10 (1.5)	4 (0.5)	13 (1.7)	20 (4.1)	15 (2.6)	10 (1.6)	7 (1.1)
2006	9 (1.5)	7 (1.1)	12 (2.7)	9 (1.3)	16 (2.0)	23 (3.0)	10 (2.1)	10 (1.8)	10 (1.5)	9 (0.9)
2007	9 (1.5)	8 (1.1)	3 (0.6)	11 (1.6)	2 (0.2)	17 (2.1)	14 (3.0)	9 (1.5)	9 (1.4)	9 (1.3)
2008	11 (1.7)	8 (1.2)	14.5 (3.0)	13 (1.9)	16 (1.9)	27 (3.4)	14 (2.9)	13 (2.2)	12 (1.8)	7 (1.1)
2009	11 (1.8)	10 (1.5)	14 (5.1)	12 (1.8)	10 (1.2)	20 (2.7)	9 (2.1)	9 (1.5)	11 (1.8)	10 (1.5)

Figure 9.3

Donors per Thousand Deaths Aged < 75 years 2004 - 2009
() Is the % Deaths < 75 years as a Proportion of all Deaths*

Year	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ
2004	4.0 (39%)	3.7 (35%)	10.1 (42%)	3.7 (34%)	1.4 (36%)	9.8 (34%)	1.4 (78%)	4.8 (40%)	4.3 (37%)	3.4 (48%)
2005	3.6 (39%)	3.2 (36%)	16.5 (36%)	4.4 (35%)	1.3 (37%)	4.8 (34%)	5.1 (78%)	6.3 (39%)	4.1 (37%)	2.7 (40%)
2006	3.8 (38%)	2.9 (34%)	7.0 (38%)	4.0 (33%)	5.6 (36%)	9.0 (32%)	2.8 (76%)	4.6 (39%)	4.1 (36%)	2.3 (39%)
2007	3.9 (38%)	3.0 (34%)	1.6 (40%)	4.9 (33%)	0.6 (35%)	5.9 (32%)	3.9 (77%)	3.9 (39%)	4.0 (35%)	3.4 (38%)
2008	4.7 (38%)	3.4 (33%)	8.1 (36%)	5.6 (33%)	5.5 (35%)	10.4 (31%)	3.9 (74%)	5.4 (38%)	5.0 (34%)	2.9 (38%)
2009	4.6 (35%)	4.2 (34%)	13.0 (39%)	5.4 (33%)	3.3 (36%)	7.9 (33%)	2.7 (77%)	3.7 (39%)	4.9 (35%)	3.9 (38%)

* The number of actual donors is compared to the number of deaths that are aged less than 75 years (Figure 9.3)
Australian Bureau of Statistics - Deaths 3302.0 and Statistics NZ

DONOR PROFILE

Age and Gender Distribution

In Australia in 2010, 16% (49 donors) were 65 years or older and 3% (eight donors) were aged 75 years or older. The oldest donor was 84.3 years and the youngest 2.1 years

Donor gender in each State, Australia and New Zealand is shown in five year cohorts in (Figure 9.4).

The mean age for donors in Australia in 2010, was 47.3 years, the highest since records began in 1989. The mean age in 1989 was 32.4 years and the age range was between 16.5 months and 69.5 years.

The mean age for the larger Australian States in 2010 ranged from 45.6 years in Queensland to 48 years in New South Wales and Victoria. If the smaller States and Territories are included the range was 23.6 years in the Northern Territory to 50 years in Tasmania.

The median age for Australia in 2010 was 48.9 years, the highest since records began in 1989.

In the larger Australian States the median age ranged from 46.1 years in Western Australia to 49.5 years in Victoria. If the smaller States and Territories are included the range was 23.6 years in the Northern Territory to 55.7 years in Tasmania.

The mean and median age for donors from 1991 to 2009 for each State are shown in three year cohorts and for 2010 alone in Figures 9.5 and 9.6.

In New Zealand the mean age decreased from 44.3 years in 2009 to 43.5 years in 2010. The median age also decreased from 46.9 years to 43.1 years in 2010. Five donors were over 65 years of age and there were none over 75 years. The age range was between 15.1 years and 71.4 years.

Figure 9.4

Donor Gender – States, Australia, New Zealand
1996 - 2000 2001 - 2005 2006 - 2010

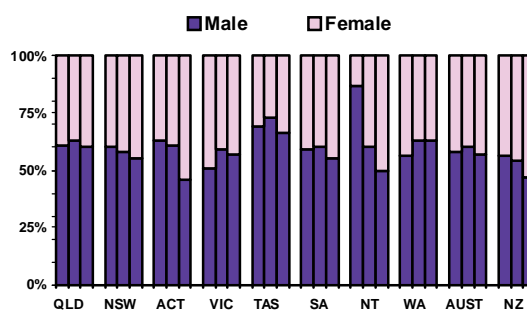


Figure 9.5

Australian States Mean Age of Donors								
Years	QLD	NSW	ACT	VIC	TAS	SA	NT	WA
1989 - 1991	31.2	37.1	29.8	32.4	20.1	30.8	35.9	29.2
1992 - 1994	31.9	38.2	35.3	39.8	27.4	38.2	29.3	35.0
1995 - 1997	34.2	38.5	44.2	42.0	33.2	41.4	36.0	36.9
1998 - 2000	38.4	41.9	37.2	42.9	39.7	38.3	37.0	37.3
2001 - 2003	38.6	41.4	40.0	43.8	34.3	41.2	44.7	32.5
2004 - 2006	39.9	46.5	40.4	42.6	33.4	43.6	38.9	43.2
2007 - 2009	39.1	45.7	38.9	45.5	34.2	49.4	51.5	47.7
2010	45.6	48.0	47.6	48.0	50.0	47.1	23.6	46.1

Figure 9.6

Australian States Median Age of Donors								
Years	QLD	NSW	ACT	VIC	TAS	SA	NT	WA
1989 - 1991	31.5	38.9	30.4	28.4	17.3	28.9	31.8	28.8
1992 - 1994	31.7	40.1	27.2	40.7	25.1	38.6	27.9	33.6
1995 - 1997	37.5	38.4	45.9	45.5	33.9	45.4	35.5	39.4
1998 - 2000	40.3	43.6	37.2	46.4	42.6	42.4	32.8	44.7
2001 - 2003	40.5	42.9	37.9	48.8	21.4	44.7	47.6	31.8
2004 - 2006	42.2	48.3	45.8	46.9	34.0	47.2	42.4	44.6
2007 - 2009	40.8	48.2	40.6	47.4	30.7	51.5	60.0	52.9
2010	48.8	48.5	50.9	49.5	55.7	50.4	23.6	46.1



CAUSE OF DEATH - ALL DONORS

The cause of death for all organ donors in Australia since 1989 and for New Zealand since 1996 is shown in Figure 9.7.

In Australia and New Zealand, road trauma continues to be a reducing cause of death while cerebrovascular accident (CVA) has been increasing in Australia since 1989, although in New Zealand figures have remained steady.

In the period 2003-2010, CVA accounted for 52% of donor deaths and road trauma 15%.

Figure 9.8 shows the cause of death by percentage in Australia and each Australian State from 2003 to 2010, and New Zealand from 2006 to 2010.

Figure 9.9 shows detailed cause of death by gender in Australia and New Zealand for 2010

Figure 9.10 shows that CVA is the main cause of death in donors 55 years and older, 69% in Australia and 50% in New Zealand, whereas in the 15-34 year age group, trauma accounted for 43% of all deaths in Australia and 50% in New Zealand.

Figure 9.7

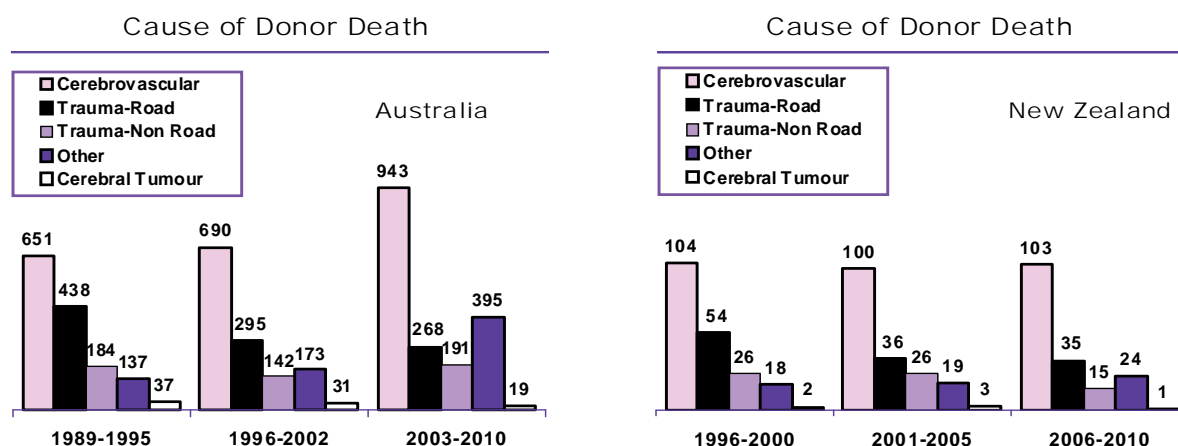


Figure 9.8

Cause of Donor Death 2003 - 2010										
	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ *
CVA	45%	54%	53%	55%	42%	52%	61%	51%	52%	58%
Trauma (road)	21%	15%	20%	10%	13%	11%	22%	19%	15%	20%
Trauma (non-road)	14%	8%	12%	8%	18%	10%	11%	15%	11%	8%
Hypoxia-Anoxia	17%	18%	14%	22%	24%	23%	0%	11%	18%	10%
Cerebral Tumour	1%	1%	0%	1%	0%	1%	0%	2%	1%	<1%
Other	2%	4%	1%	4%	3%	3%	6%	2%	3%	3%

* NZ 2006 - 2010

Figure 9.9

Cause of Donor Death 2010

Causes of Death		Australia			New Zealand		
		Male	Female	Total	Male	Female	Total
CVA	Cerebral Infarct	9	3	12	2	1	3
	Intracranial Haemorrhage	38	22	60	1	6	7
	Subarachnoid Haemorrhage	36	46	82	5	7	12
Road Trauma	Cyclist	4	1	5	1	1	2
	Motor Bike Accident	4	1	5	2	0	2
	Motor Vehicle Accident	11	8	19	1	4	5
	Pedestrian	9	5	14	0	0	0
	Other Road Accident	1	0	1	0	0	0
Other Trauma	Fall	13	1	14	0	2	2
	Felony / Crime - Assault	4	0	4	0	0	0
	Gunshot	1	0	1	1	0	1
	Other Accident	5	0	5	1	0	1
Hypoxia Anoxia	Asthma	3	0	3	0	0	0
	Carbon Monoxide	1	0	1	0	0	0
	Cardiac Arrest	21	20	41	1	0	1
	Choking	1	1	2	0	0	0
	Drowning	4	0	4	0	0	0
	Epilepsy	0	1	1	0	0	0
	Hanging	3	7	10	0	0	0
	Hydrocephalus	0	0	0	1	0	1
	Myocardial Infarction	1	0	1	0	0	0
	Overdose	1	0	1	0	0	0
	Pulmonary Embolism	0	2	2	0	0	0
	Secondary Collapse-Apert Syndrome	1	0	1	0	0	0
	Seizure	1	0	1	0	0	0
Cerebral Tumour	Glioma (Malignant)	1	0	1	0	0	0
	Glioma (Benign)	0	0	0	1	0	1
	Meningioma (Benign)	0	1	1	0	0	0
	Oligoastrocytoma (Benign)	0	1	1	0	0	0
Other	Acute Obstructive Hydrocephalus	1	0	1	0	0	0
	Cerebral Oedema	7	3	10	1	0	1
	Medullary Neurosarcomoid	0	1	1	0	0	0
	Meningioma (Benign)	0	0	0	0	1	1
	Meningitis (Gram Negative)	1	0	1	0	0	0
	Meningitis (Pneumococcal)	0	1	1	0	0	0
	Self Inflicted Stab Wound	0	0	0	1	0	1
	Snake Bite	0	1	1	0	0	0
	Suicide-Nail Gun	1	0	1	0	0	0
Total		183	126	309	19	22	41

Figure 9.10

Cause of Donor Death Related to Age Group 2010

	Australia					New Zealand				
	Age Groups				Total	Age Groups				Total
	0-14	15-34	35-54	55 on		0-14	15-34	35-54	55 on	
CVA	0	11	64	79	154 (50%)	0	4	12	6	22 (54%)
Trauma (road)	1	23	15	5	44 (14%)	0	6	1	2	9 (22%)
Trauma (non-road)	0	4	12	8	24 (8%)	0	1	1	2	4 (10%)
Hypoxia-Anoxia	5	17	24	22	68 (22%)	0	2	0	0	2 (5%)
Cerebral Tumour	0	1	2	0	3 (1%)	0	0	0	1	1 (2%)
Other	3	7	5	1	16 (5%)	0	1	1	1	3 (7%)
Total	9	63	122	115	309	0	14	15	12	41



DONATION AFTER CARDIAC DEATH DONORS

Australia

The majority of organs are donated by heart-beating brain dead patients.

After a heart-beating donor is certified brain dead, they remain on the ventilator and the removal of organs may occur many hours later.

Donation after cardiac death (DCD) donors are defined as patients who are certified dead using the criterion of irreversible cessation of circulation.

As soon as cardiac death is confirmed the retrieval procedure is commenced in order to minimise warm ischaemic time.

The number of DCD donors since 2005 continues to increase each year, particularly in New South Wales, Victoria and Queensland.

The total since 1989 is 200 donors for Australia and seven donors for New Zealand, as shown in Figure 9.11.

The first multiorgan DCD was performed in South Australia in 2006.

In 2010 there were 69 DCD donors; 24 in both New South Wales and Victoria, 13 in Queensland, five in South Australia and three in the Australian Capital Territory (ACT).

Mean age was 47.1 years and age range was 3.5 years to 72.7 years.

Causes of death in 2010 were hypoxia-anoxia (25), CVA (21), road trauma (12), other trauma (7), cerebral oedema (2), medullary neurosarcomatoid (1) and cerebral tumour (1).

Thirty donors had two or more organs transplanted, a further 28 donors had two kidneys transplanted (two kidneys=one organ), three donors had a single kidney transplanted (one of those was a double adult), and a further three donors had double lungs transplanted.

Five of the 69 donors in 2010 did not have any organs transplanted, but three of those donors had corneas sent to the Tissue Bank.

The number and type of organs transplanted or sent to the Tissue Bank from 1989-2010 is shown for each State in Figure 9.12 and for Australia in Figure 9.13.

There were 17 intended DCD donors during 2010; twelve did not proceed to cardiac standstill, two had extended ischaemic times and one each a malignancy, hepatitis C positive and unstable.

New Zealand

There was one DCD donor in New Zealand in 2010, who donated a liver, which was transplanted.

Figure 9.11

Donation after Cardiac Death Donors 1989 - 2010

	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	Aust	NZ
1989	0	0	0	1	0	1	0	0	2	-
1990	0	2	0	0	0	1	0	0	3	-
1991	0	2	0	0	0	0	0	0	2	-
1992	0	1	0	0	0	0	0	0	1	-
1993	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	1	0	0	1	1
1995	0	3	0	1	0	0	0	0	4	0
1996	1	1	0	0	0	0	0	0	2	0
1997	0	2	0	0	0	1	0	0	3	1
1998	0	0	0	0	0	2	0	0	2	0
1999	1	0	0	0	0	0	0	0	1	0
2000	0	0	0	0	0	0	1	0	1	0
2001	0	1	0	1	0	0	0	0	2	0
2002	0	0	0	0	0	1	1	0	2	0
2003	0	1	0	0	0	0	0	0	1	0
2004	0	2	0	0	0	0	0	1	3	0
2005	0	8	0	0	0	1	0	0	9	0
2006	0	4	0	1	0	3	0	0	8	0
2007	0	8	0	9	0	2	0	0	19	0
2008	5	10	2	3	0	3	0	0	23	2
2009	5	15	2	17	0	3	0	0	42	2
2010	13	24	3	24	0	5	0	0	69	1
Total	25	84	7	57	0	24	2	1	200	7

Figure 9.12

Donation After Cardiac Death Donors 1989 - 2010 Organs Transplanted or Sent to Tissue Bank in Australia																							
Donor State	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Total
Queensland																							
Kidneys	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	10	8	25	47	
Lungs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	3	5	
Cornea	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	8	10	
Bone	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	6	8	
Heart Valves	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	3	2	3	10	
Total	0	0	0	0	0	0	0	5	0	0	3	0	0	0	0	0	0	0	15	12	45	80	
New South Wales																							
Kidneys	0	4	3	2	0	0	5	2	4	0	0	0	0	0	2	4	16	8	13	18	27	45	153
Liver	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	4	6	13
Lungs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	4	5	8	19
Cornea	0	2	0	0	0	0	0	2	0	0	0	0	2	0	0	4	10	2	8	8	4	20	62
Bone	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3	5	5
Heart Valves	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	5	3	3	6	6	10	35
Total	0	6	3	2	0	0	5	5	5	0	0	0	2	0	2	8	31	13	27	39	47	92	287
ACT																							
Kidneys	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	4	4	12
Liver	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2
Lungs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	3
Cornea	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	4	6
Heart Valves	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	1	3
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	4	12	26
Victoria																							
Kidneys	2	0	0	0	0	0	2	0	0	0	0	0	1	0	0	0	0	12	6	30	33	86	
Liver	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	0	2	5
Lungs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	5	1	7	13	27
(L) Lung	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
(R) Lung	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Pancreas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Cornea	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2	10	4	20	37	77
Bone	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	3	7
Heart Valves	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	4	1	2	11	19
Tissue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	3	6
Total	4	0	0	0	0	0	2	0	0	0	0	0	4	0	0	0	0	3	35	16	64	102	230
South Australia																							
Kidneys	2	0	0	0	0	0	0	0	1	4	0	0	0	2	0	0	2	4	2	5	6	10	38
Liver	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	4
Lungs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	2	4
Cornea	2	2	0	0	0	2	0	0	2	0	0	0	0	2	0	0	0	2	0	0	4	6	22
Bone	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	3
Heart Valves	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	4
Total	5	3	0	0	0	3	0	0	3	4	0	0	0	4	0	0	2	9	5	5	11	21	75
Northern Territory																							
Kidneys	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	4
Western Australia																							
Kidneys	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
Australian Total	9	9	3	2	0	3	7	10	8	4	3	2	6	6	2	10	33	25	67	85	138	272	704

Figure 9.13

Donation after Cardiac Death Donors 1989 - 2010 Organs Transplanted or Sent to Tissue Bank in Australia																							
Organs	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	Total
Kidneys	4	4	3	2	0	0	7	4	5	4	2	2	1	4	2	6	18	12	27	43	75	117	342
Liver	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	4	4	12	24
Lungs	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	8	7	14	27	58
(L) Lung	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
(R) Lung	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Pancreas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1
Cornea	4	4	0	0	0	2	0	4	2	0	0	0	4	2	0	4	10	6	18	14	28	75	177
Bone	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	1	4	3	12	23
Heart Valves	0	1	0	0	0	0	2	1	0	1	0	1	0	1	0	0	5	3	8	12	11	26	71
Tissue	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	3	6
Total	9	9	3	2	0	3	7	10	8	4	3	2	6	6	2	10	33	25	67	85	138	272	704



ORGANS REQUESTED

The requests for specific organs in Australia in 2010 from 309 organ donors were: kidneys 99.7%, liver 91%, heart 81%, lungs 87% and pancreas 83%.

From the 41 New Zealand donors in 2010, the requests for specific organs were: kidneys 100%, liver 98%, heart 80%, lungs 78% and pancreas 63%.

MULTIPLE ORGAN RETRIEVAL

There were 60 (19%) of Australian donors in 2010 who donated solid organs, who had a single organ retrieved, shown in Figure 9.14. Kidney only donation occurred in 51 cases.

Seven donors in Australia went to theatre, but no solid organs were retrieved.

New Zealand had nine single organ donors in 2010, four donating kidneys and five donating a liver only.

In Australia 78% of donors and in New Zealand 71% of donors had two or more organs retrieved for the purpose of transplantation

Figure 9.14

Multiple Organ Retrieval 2005 - 2010												
Number of Organs	Australia						New Zealand					
	2005	2006	2007	2008	2009	2010	2005	2006	2007	2008	2009	2010
Single	17%	11%	15.5%	17%	17%	19%	14%	8%	16%	19%	16%	22%
Two	22%	23%	23%	23%	20%	32%	34%	24%	40%	23%	35%	29%
Three	17%	23%	23%	25%	27%	20%	21%	44%	26%	39%	33%	29%
Four	32%	23%	20%	20%	19%	18%	28%	12%	18%	16%	9%	12%
Five	10%	18%	15.5%	14%	14%	9%	3%	12%	0%	3%	2%	0%
No organs	2%	1%	3%	1%	3%	2%	0%	0%	0%	0%	5%	7%

Figure 9.15

State by State Comparison of Multiple Organ Retrieval 2010										
Number of Organs	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ
Single	14 (29%)	18 (20%)	0 (0%)	18 (18%)	1 (10%)	7 (22.5%)	0 (0%)	2 (9%)	60 (19%)	9 (22%)
Two	14 (29%)	31 (35%)	3 (30%)	24 (25%)	5 (50%)	8 (26%)	1 (50%)	12 (55%)	98 (32%)	12 (29%)
Three	12 (24%)	12 (14%)	4 (40%)	22 (23%)	0 (0%)	7 (22.5%)	0 (0%)	4 (18%)	61 (20%)	12 (29%)
Four	8 (16%)	13 (15%)	1 (10%)	21 (22%)	3 (30%)	4 (13%)	1 (50%)	4 (18%)	57 (18%)	5 (12%)
Five	1 (2%)	11 (13%)	1 (10%)	10 (10%)	1 (10%)	4 (13%)	0 (0%)	0 (0%)	28 (9%)	0 (0%)
No organs	0 (0%)	3 (3%)	1 (10%)	2 (2%)	0 (0%)	1 (3%)	0 (0%)	0 (0%)	7 (2%)	3 (7%)
Total	49	88	10	97	10	31	2	22	309	41

NB: 2 kidneys = 1 organ, 2 lungs = 1 organ
On occasions when only one kidney is retrieved, this is also defined as one organ

ORGAN RECIPIENTS TRANSPLANTED

Australia had 3.2 organs per donor in 2010 used for transplantation, while New Zealand had 2.7 organs per donor (Figure 9.16).

The number of organs transplanted per donor each year for 2000-2010 in Australia and New Zealand is shown in Figure 9.17. The number of recipients transplanted per donor in Australia in 2010 was 3.0 compared to 3.2 in 2009.

The Northern Territory had the highest number of organs transplanted; 3.5 per donor, followed by the Australian Capital Territory, 3.4, Queensland and Western Australia both 3.3, New South Wales, 3.2, Victoria and Tasmania 3.1 and South Australia, 3.0.

These figures include pancreas islets transplants but exclude tissue transplantation.

Figure 9.16

Organs Transplanted per Donor 2010										
	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ
No. Organs Transplanted	160	285	34	303	32	94	7	72	987	112
No. of Donors	49	88	10	97	10	31	2	22	309	41
Mean per Donor	3.3	3.2	3.4	3.1	3.2	3.0	3.5	3.3	3.2	2.7

Double Lungs = one organ
Kidney-Pancreas, Kidney-Heart, Kidney-Liver, Heart/Lungs = two organs

Figure 9.17

Number of Organs Per Donor Transplanted 2000 - 2010

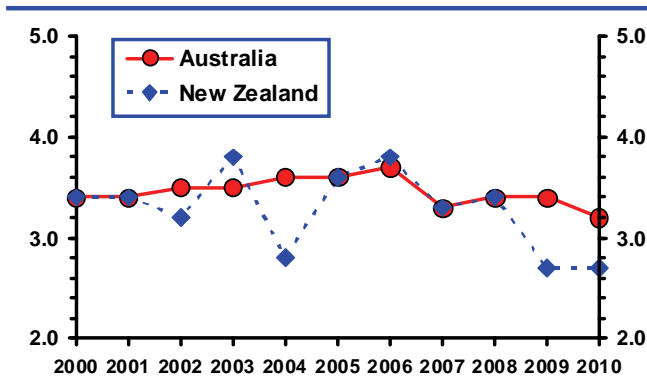


Figure 9.18

Organs Transplanted by Donor State in Australia and New Zealand 2010										
Organs Transplanted	QLD	NSW	ACT	VIC	TAS	SA	NT	WA	AUST	NZ
Kidney	94	156	18	164	17	53	4	42	548	52
Liver	27	49	6	51	5	16	2	17	173	30
Liver (Left)	3	6	2	2	1	2	0	0	16	2
Liver (Right)	3	6	2	2	1	1	0	0	15	2
Heart	11	17	1	24	2	4	0	6	65	11
Heart/Lungs	0	0	0	0	0	1	0	2	3	0
Lungs	15	33	2	43	2	10	1	4	110	12
Lung (Left)	2	1	0	0	0	1	0	0	4	0
Lung (Right)	1	1	1	2	0	1	0	0	6	0
Pancreas	1	14	1	12	2	3	0	1	34	3
Pancreas Islets	3	2	1	3	1	2	0	0	12	0
Intestines	0	0	0	0	1	0	0	0	1	0
Total	160	285	34	303	32	94	7	72	987	112



KIDNEY DONATION

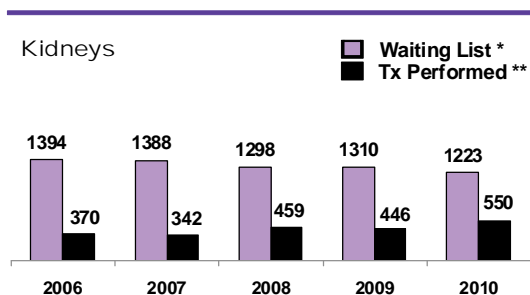
Figure 9.19 shows the number of Australian and New Zealand patients waiting for a kidney transplant and the number of deceased donor transplants performed for each year from 2006-2010.

There were 33 combined kidney/pancreas, four whole liver/kidney, two split liver/kidney and three kidney/heart transplants in 2010 in Australia.

In New Zealand there were two combined kidney/pancreas transplants in 2010.

Figure 9.19

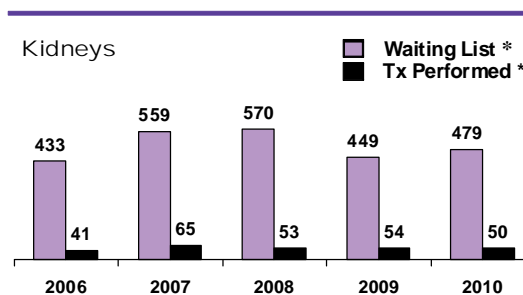
Waiting List vs Deceased Donor Transplants
Australia 2006 - 2010



* Source: NOMS (National Organ Matching System)

** Includes kidneys sent from New Zealand

Waiting List vs Deceased Donor Transplants
New Zealand 2006 - 2010

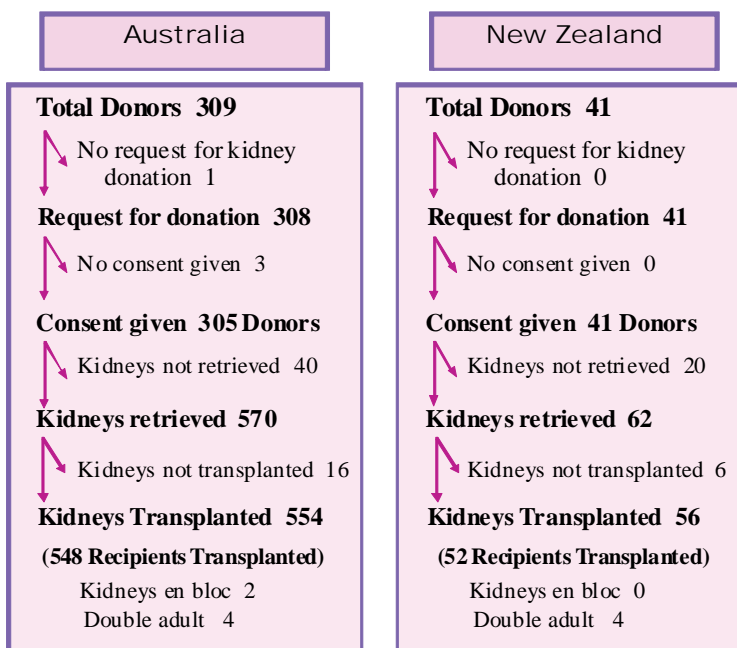


* Source of Waiting List – NZ Donor Coordinators

** Not included kidneys sent to Australia: 2010 (2)

Figure 9.20

Outcome of Request for Kidney Donation 2010



Refer to Appendices for reasons kidneys were not requested, not retrieved and not transplanted.

For more detail please refer to Website: www.anzdata.org.au/anzod